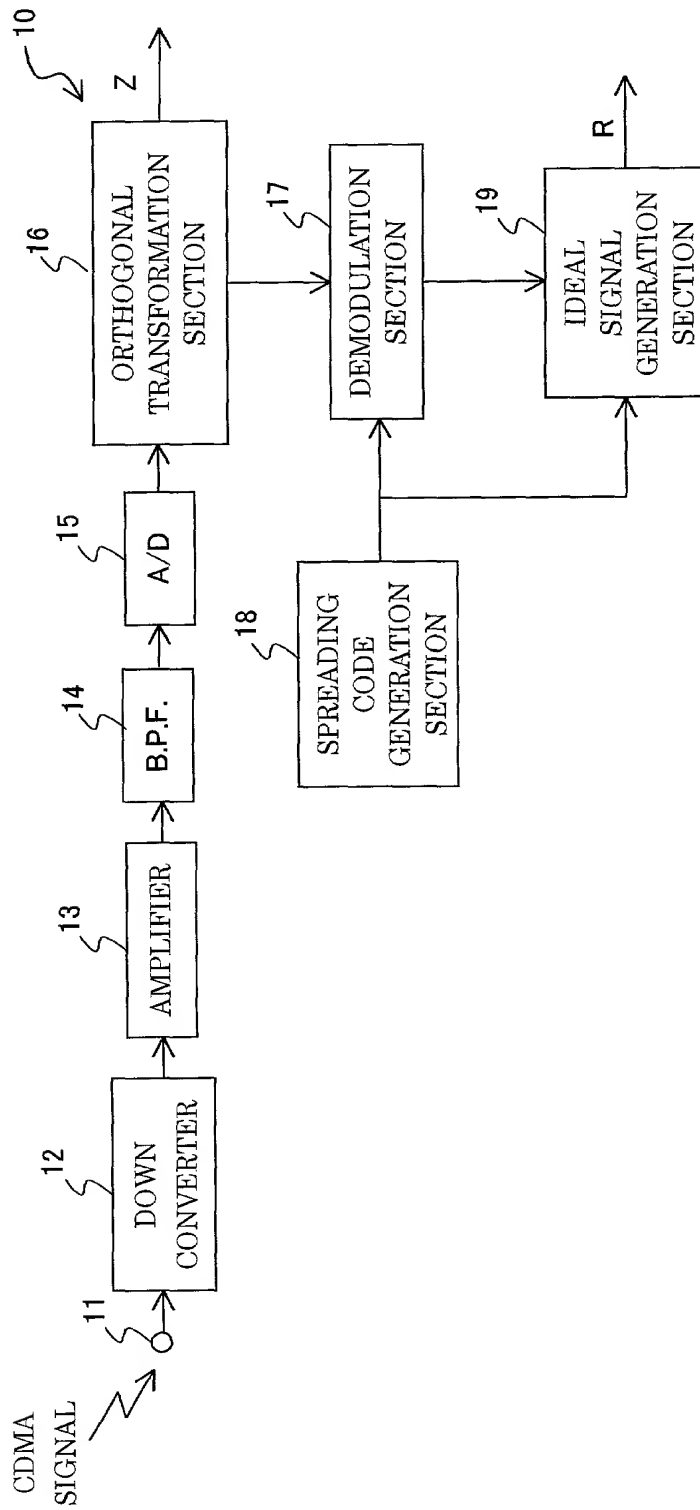


TITLE: PHYSICAL QUANTITY DISPLAY DEVICE FOR DISPLAYING PHYSICAL QUANTITY OF  
MULTIPLE SIGNALS, METHOD AND RECORDING MEDIUM

Inventor: Toshiaki KURIHARA et al.

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DISPLAY OBJECT

20

| CHANNEL TYPE | SPREADING<br>CODE LENGTH | SPREADING<br>CODE NUMBER |
|--------------|--------------------------|--------------------------|
| PICH         | 32                       | 0                        |
| DCCH         | 16                       | 8                        |
| SCH2         | 4 (8)                    | 2 (6)                    |
| FCH          | 16                       | 4                        |
| SCH1         | 2 (4)                    | 1 (2)                    |

T 020000 " E 02000000

$$(a) \quad \rho_i = \frac{\sum_{j=1}^N \left| \sum_{k=1}^L Z_{j,k} R_{i,j,k}^* \right|^2}{\left\{ \sum_{k=1}^L |R_{i,j,k}|^2 \right\} \left\{ \sum_{j=1}^N \sum_{k=1}^L |Z_{j,k}|^2 \right\}}$$

$$(b) \quad W_i = 10.0 \times \log_{10} \rho_i \quad [\text{dB}]$$

$$(c) \quad X_i[\text{dBm}] = \text{POWER VALUE OF INPUT SIGNAL} [\text{dBm}] + W_i \quad [\text{dB}]$$

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| CHANNEL TYPE | POWER [dB] |
|--------------|------------|
| PICH         | -3         |
| DCCH         | -6         |
| SCH2         | -40        |
| FCH          | -6.5       |
| SCH1         | -30        |

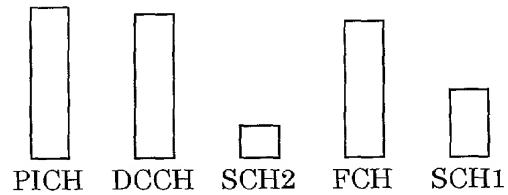
T 06080 " 0000000000

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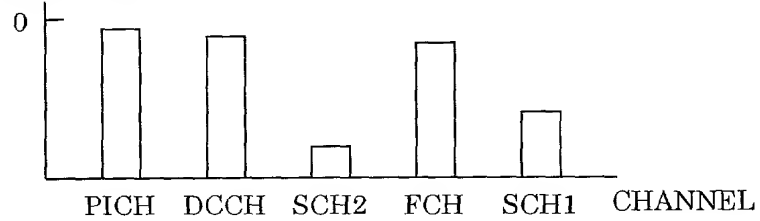
(a)

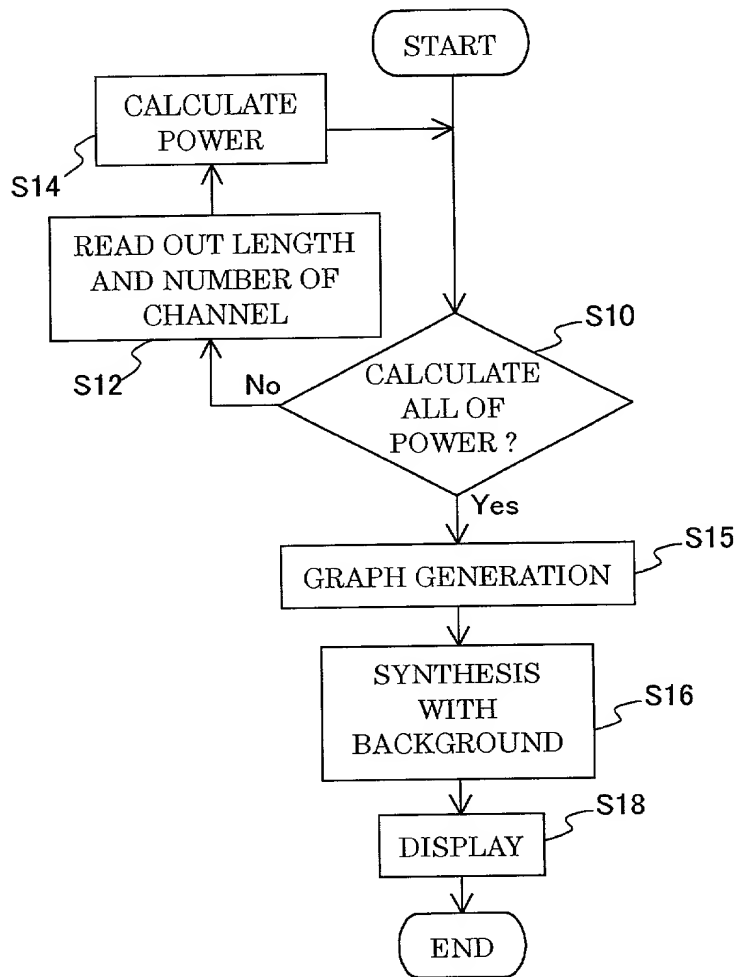


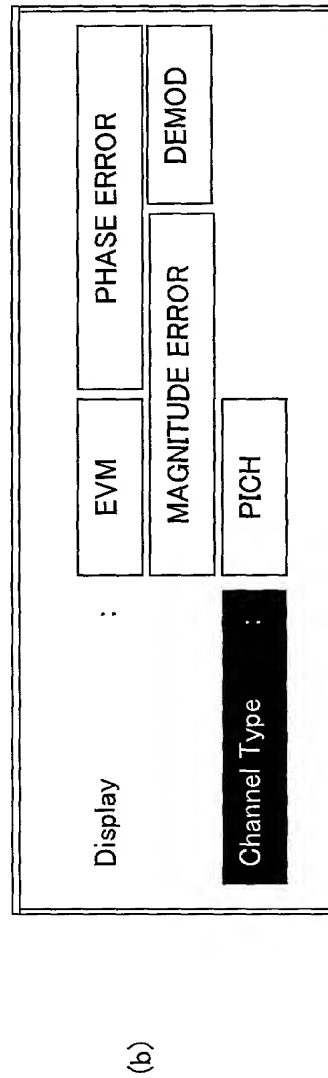
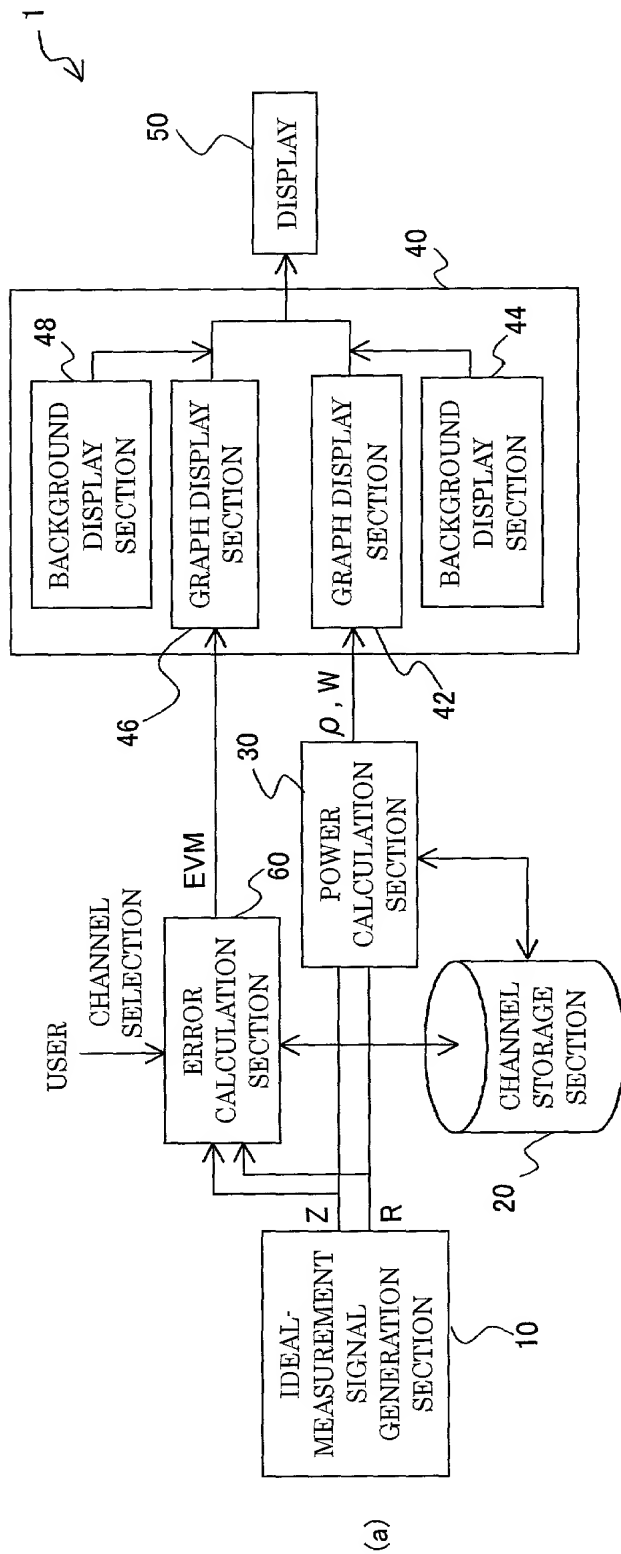
(b) POWER [dB]



(c) POWER [dB]









$$(a) \text{EVM}_{ij} = 100 \times \sqrt{\frac{\left| \left( \sum_{k=1}^L Z_{j,k} \cdot R_{i,j,k}^* \right) - \left( \sum_{k=1}^L R_{i,j,k} \cdot R_{i,j,k}^* \right) \right|^2}{\left| \left( \sum_{k=1}^L R_{i,j,k} \cdot R_{i,j,k}^* \right) \right|^2}} [\%]$$

(b) Phase Error  $ij$

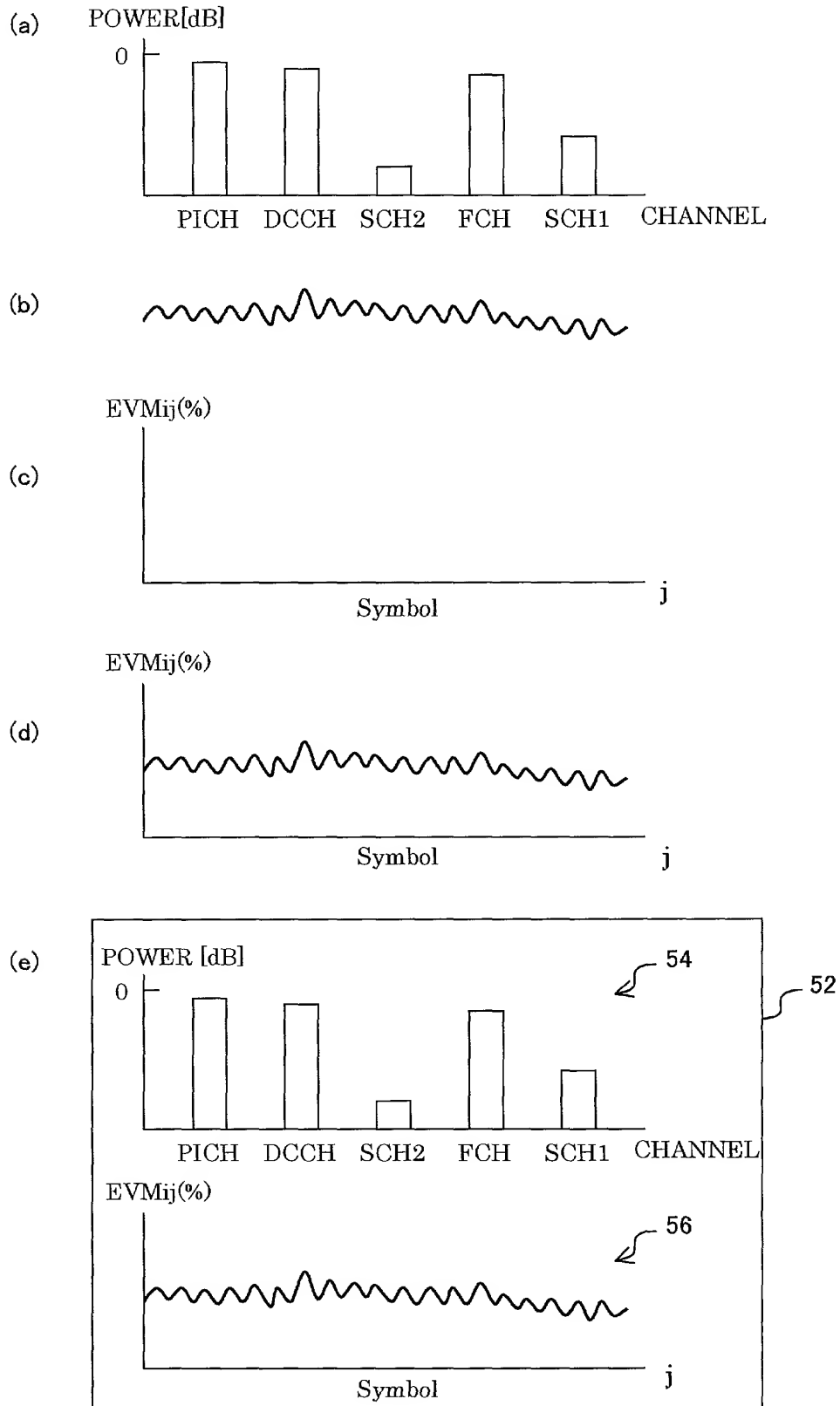
$$= \text{Arg} \left( \sum_{k=1}^L Z_{j,k} \cdot R_{i,j,k}^* \right) - \text{Arg} \left( \sum_{k=1}^L R_{i,j,k} \cdot R_{i,j,k}^* \right) [\text{degree}]$$

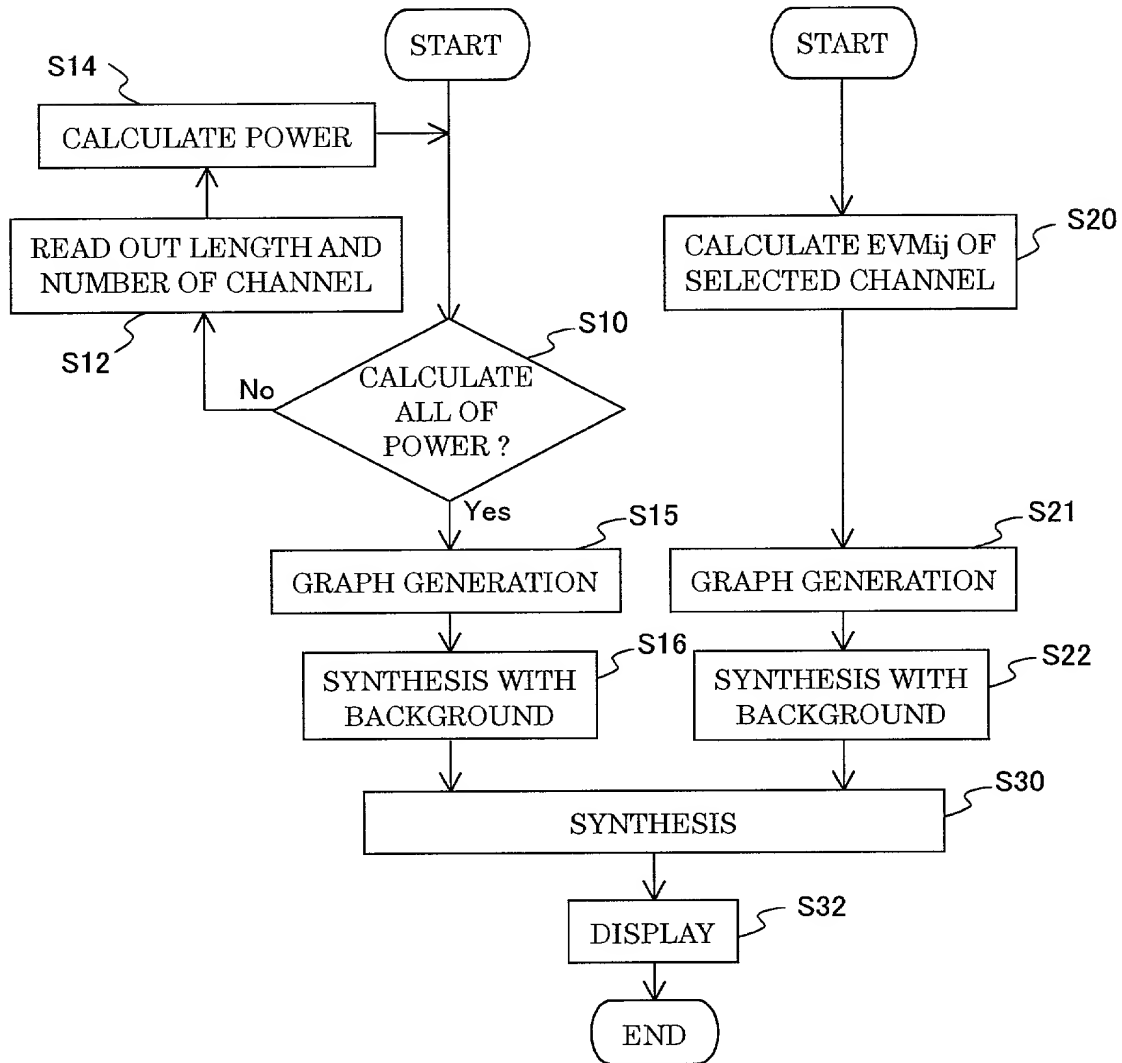
OR  
[radian]

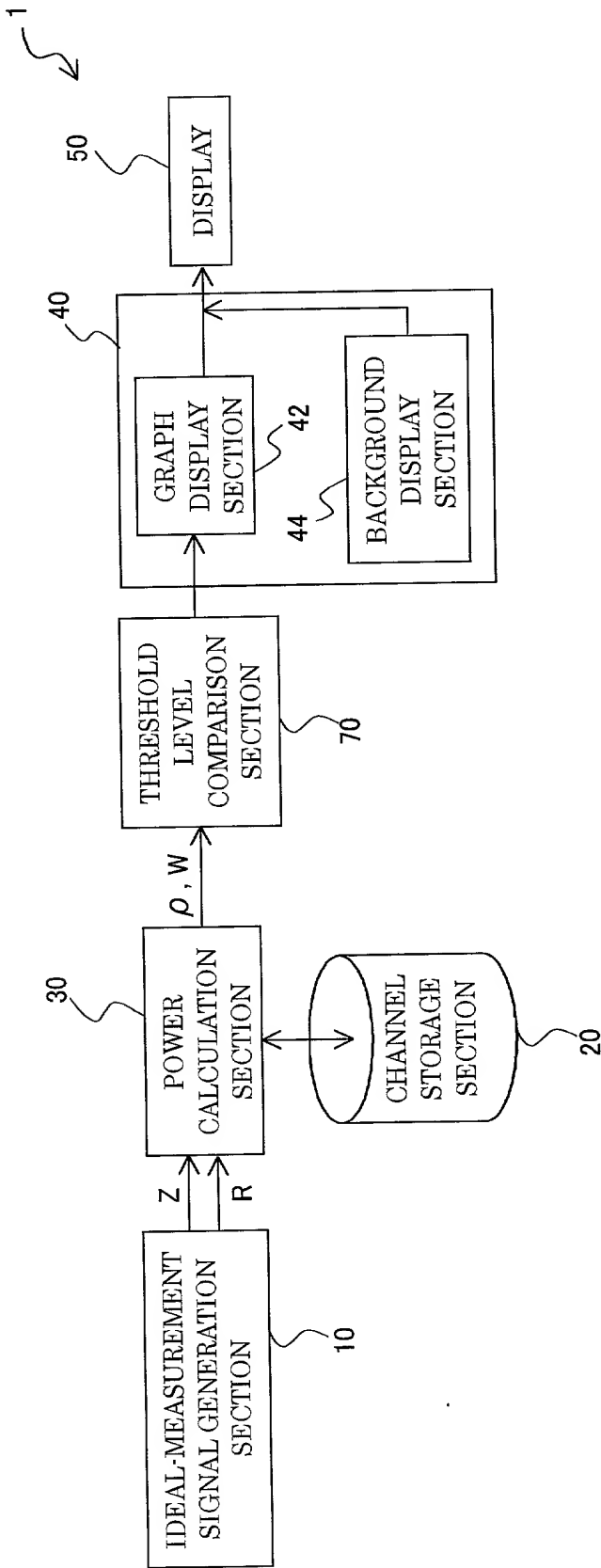
PROVIDED THAT Arg IS  $\tan^{-1} \frac{\beta}{\alpha}$  WHEN WITHIN ( ) IS TAKEN TO BE  $\alpha + j\beta$ .

(c) Magnitude Error  $ij$

$$= 100 \times \frac{\left| \sum_{k=1}^L Z_{j,k} \cdot R_{i,j,k}^* \right| - \left| \sum_{k=1}^L R_{i,j,k} \cdot R_{i,j,k}^* \right|}{\left| \sum_{k=1}^L R_{i,j,k} \cdot R_{i,j,k}^* \right|} [\%]$$







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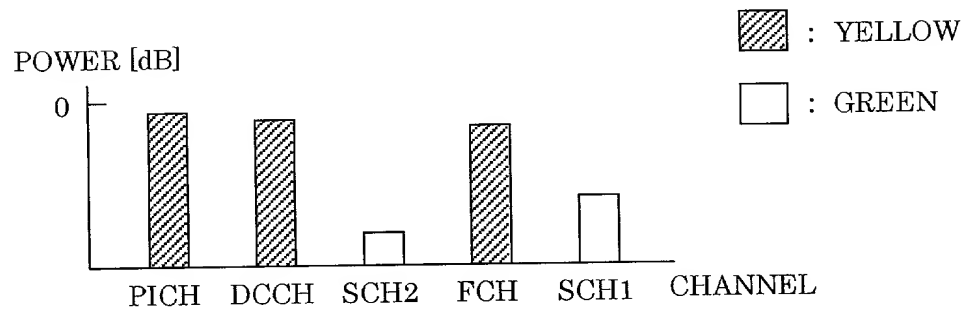
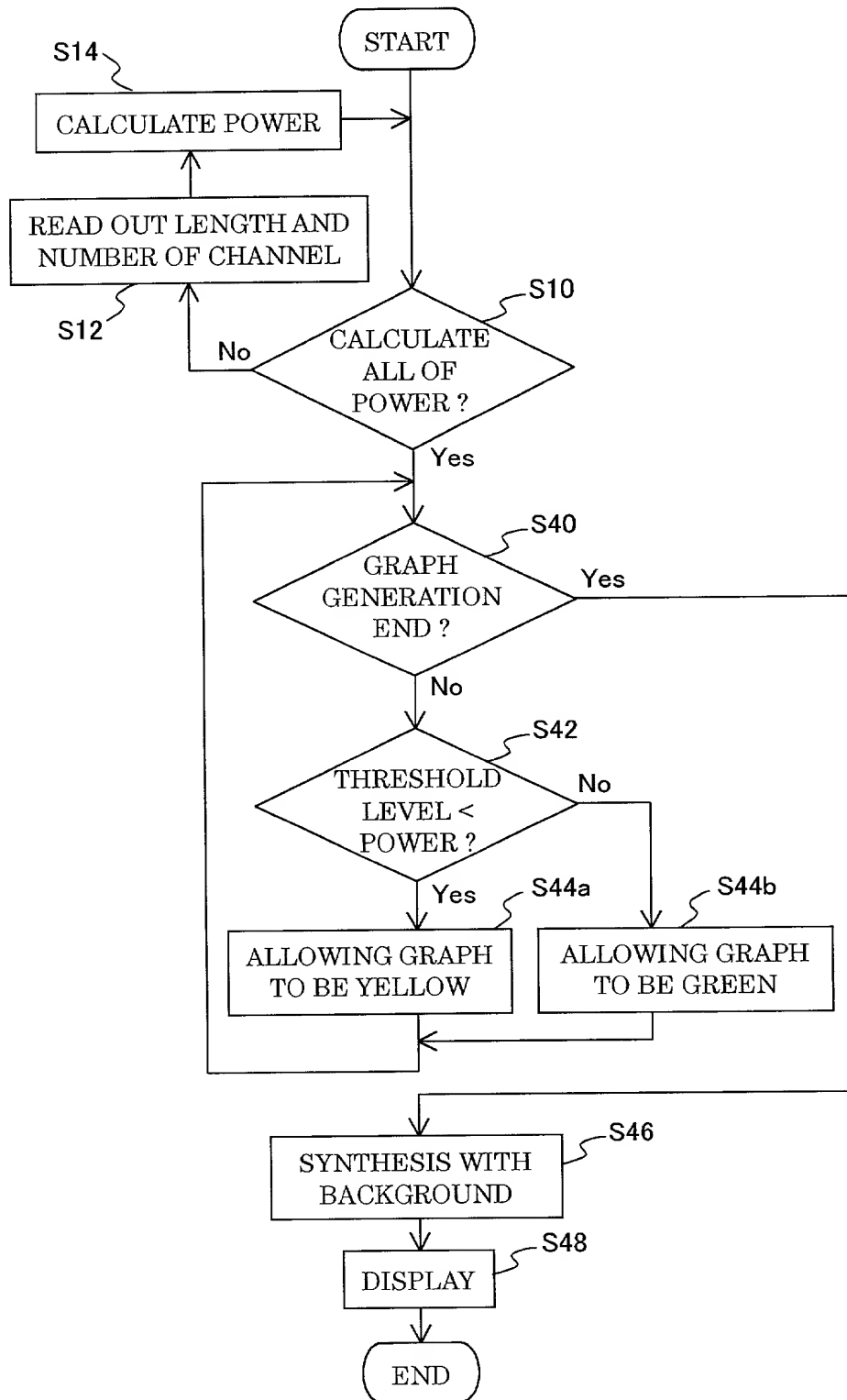


FIG. 13



LENGTH OF WALSH FUNCTION L=4

| CHANNEL(i) | WALSH CODE |   |   |   |
|------------|------------|---|---|---|
| 0          | 0          | 0 | 0 | 0 |
| 1          | 0          | 1 | 0 | 1 |
| 2          | 0          | 0 | 1 | 1 |
| 3          | 0          | 1 | 1 | 0 |

FIG. 15

